



1600

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RAW SEQUENCE LISTING

DATE: 08/14/2003

PATENT APPLICATION: US/10/018,113A

TIME: 15:21:21 AUG 21 2003

Input Set : A:\100806_01US1.ST25.txt

Output Set: N:\CRF4\08142003\J018113A.raw

TECH CENTER 1600/2900

3 <110> APPLICANT: Actino Drug Pharmaceuticals GmbH
 5 <120> TITLE OF INVENTION: Method of modifying peptide synthetases such that they can
 6 N-methylate their substrate amino acids
 8 <130> FILE REFERENCE: 100806.01US1
 10 <140> CURRENT APPLICATION NUMBER: US 10/018,113A
 C--> 11 <141> CURRENT FILING DATE: 2002-04-29
 13 <150> PRIOR APPLICATION NUMBER: DE 199 28 31.3-41
 14 <151> PRIOR FILING DATE: 1999-06-16
 16 <150> PRIOR APPLICATION NUMBER: PCT/DE00/01950
 17 <151> PRIOR FILING DATE: 2000-06-15
 19 <160> NUMBER OF SEQ ID NOS: 78
 21 <170> SOFTWARE: PatentIn version 3.2
 23 <210> SEQ ID NO: 1
 24 <211> LENGTH: 3849
 25 <212> TYPE: DNA
 26 <213> ORGANISM: Streptomyces chrysomallus
 28 <400> SEQUENCE: 1

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158 gccgcatcc
161 <210> SEQ ID NO: 2
162 <211> LENGTH: 80
163 <212> TYPE: PRT
164 <213> ORGANISM: Bacillus brevis
166 <220> FEATURE:
167 <223> OTHER INFORMATION: GRSB_1 Gramicidin S Synthetase II Pos: 864 to 944
169 <400> SEQUENCE: 2
171 Gln Val Lys Ile Arg Gly His Arg Ile Glu Leu Gly Glu Ile Glu Ala
172 1 5 10 15
175 Gln Leu Leu Asn Cys Lys Gly Val Lys Glu Ala Val Val Ile Asp Lys

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179 Ala Asp Asp Lys Gly Gly Lys Tyr Leu Cys Ala Tyr Val Val Met Glu
180          35          40          45
183 Val Glu Val Asn Asp Ser Glu Leu Arg Glu Tyr Leu Gly Lys Ala Leu
184          50          55          60
187 Pro Asp Tyr Met Ile Pro Ser Phe Phe Val Pro Leu Asp His Val Arg
188 65          70          75          80
191 <210> SEQ ID NO: 3
192 <211> LENGTH: 80
193 <212> TYPE: PRT
194 <213> ORGANISM: Bacillus brevis
196 <220> FEATURE:
197 <223> OTHER INFORMATION: GRSB_2 Gramicidin S Synthetase II Pos: 1900 to 1979
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202 1          5          10          15
205 Leu Leu Val Lys His Lys Lys Val Lys Glu Ser Val Ile Met Val Val
206          20          25          30
209 Glu Asp Asn Asn Gly Gln Lys Ala Leu Cys Ala Tyr Tyr Val Pro Glu
210          35          40          45
213 Glu Glu Val Thr Val Ser Glu Leu Arg Glu Tyr Ile Ala Lys Glu Leu
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217 Pro Val Tyr Met Val Pro Ala Tyr Phe Val Gln Ile Glu Gln Met Pro
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223 <212> TYPE: PRT
224 <213> ORGANISM: Bacillus brevis
226 <220> FEATURE:
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230 <400> SEQUENCE: 4
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233 1          5          10          15
236 Gln Leu Arg Lys His Asp Ser Ile Lys Glu Ala Thr Val Ile Ala Arg
237          20          25          30
240 Glu Asp His Met Lys Glu Lys Tyr Leu Cys Ala Tyr Met Val Thr Glu
241          35          40          45
244 Gly Glu Val Asn Val Ala Glu Leu Arg Ala Tyr Leu Ala Asn Asp Arg
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248 Ala Ala Met Ile Pro Ser Tyr Phe Val Ser Leu Glu Ala Met Pro
249 65          70          75
252 <210> SEQ ID NO: 5
253 <211> LENGTH: 80
254 <212> TYPE: PRT
255 <213> ORGANISM: Bacillus brevis
257 <220> FEATURE:
258 <223> OTHER INFORMATION: GRSB_4 Gramicidin S Synthetase II Pos: 3984 to 4063
260 <400> SEQUENCE: 5
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263 1          5          10          15
266 Ala Ile Leu Glu Tyr Glu Lys Ile Lys Glu Ala Val Val Met Val Ser
267          20          25          30
270 Glu His Thr Ala Ser Glu Gln Met Leu Cys Ala Tyr Ile Val Gly Glu
271          35          40          45
274 Glu Asp Val Leu Thr Leu Asp Leu Arg Ser Tyr Leu Ala Lys Leu Leu
275          50          55          60
278 Pro Ser Tyr Met Ile Pro Asn Tyr Phe Ile Gln Leu Asp Ser Ile Pro
279 65          70          75          80
282 <210> SEQ ID NO: 6
283 <211> LENGTH: 82
284 <212> TYPE: PRT
285 <213> ORGANISM: Bacillus subtilis
287 <220> FEATURE:
288 <223> OTHER INFORMATION: SRF1_1 Surfactin Synthetase 1 Pos: 863 to 944
290 <400> SEQUENCE: 6
292 Gln Val Lys Val Arg Gly Tyr Arg Ile Glu Leu Gly Glu Ile Glu Ala
293 1          5          10          15
296 Val Ile Gln Gln Ala Pro Asp Val Ala Lys Ala Val Val Leu Ala Arg
297          20          25          30
300 Pro Asp Glu Gln Gly Asn Leu Glu Val Cys Ala Tyr Val Val Gln Lys
301          35          40          45
304 Pro Gly Ser Glu Phe Ala Pro Ala Gly Leu Arg Glu His Ala Ala Arg
305          50          55          60
308 Gln Leu Pro Asp Tyr Met Val Pro Ala Tyr Phe Thr Glu Val Thr Glu
309 65          70          75          80
312 Ile Pro
316 <210> SEQ ID NO: 7
317 <211> LENGTH: 80
318 <212> TYPE: PRT
319 <213> ORGANISM: Bacillus subtilis
321 <220> FEATURE:
322 <223> OTHER INFORMATION: SRF1_2 Surfactin Synthetase 1 Pos: 1904 to 1983
324 <400> SEQUENCE: 7
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330 Gln Leu Gln Thr His Asp Arg Val Gln Glu Ser Val Val Leu Ala Val
331          20          25          30
334 Asp Gln Gly Ala Gly Asp Lys Leu Leu Cys Ala Tyr Tyr Val Gly Glu
335          35          40          45
338 Gly Asp Ile Ser Ser Gln Glu Met Arg Glu His Ala Ala Lys Asp Leu
339          50          55          60
342 Pro Ala Tyr Met Val Leu Arg Cys Leu Ser Lys Trp Thr Glu Leu Pro
343 65          70          75          80
346 <210> SEQ ID NO: 8
347 <211> LENGTH: 79
348 <212> TYPE: PRT
349 <213> ORGANISM: Bacillus subtilis
351 <220> FEATURE:

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Input Set : A:\100806_01US1.ST25.txt

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354 <400> SEQUENCE: 8

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361 20 25 30

364 Lys Asp Lys Gly Gly Asn Thr Ala Ile Ala Ala Tyr Val Thr Pro Glu

365 35 40 45

368 Ser Ala Asp Ile Glu Ala Leu Lys Ser Ala Leu Lys Glu Thr Leu Pro

369 50 55 60

372 Asp Tyr Met Ile Pro Ala Phe Trp Val Thr Leu Asn Glu Leu Pro

373 65 70 75

376 <210> SEQ ID NO: 9

377 <211> LENGTH: 80

378 <212> TYPE: PRT

379 <213> ORGANISM: Bacillus subtilis

381 <220> FEATURE:

382 <223> OTHER INFORMATION: SRF2_1 Surfactin Synthetase 2 Pos: 860 to 939

384 <400> SEQUENCE: 9

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390 Lys Leu Asn Met Ala Glu His Val Thr Glu Ala Ala Val Ile Ile Arg

391 20 25 30

394 Lys Asn Lys Ala Asp Glu Asn Glu Ile Cys Ala Tyr Phe Thr Ala Asp

395 35 40 45

398 Arg Glu Val Ala Val Ser Glu Leu Arg Lys Thr Leu Ser Gln Ser Leu

399 50 55 60

402 Pro Asp Tyr Met Val Pro Ala His Leu Ile Gln Met Asp Ser Leu Leu

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406 <210> SEQ ID NO: 10

407 <211> LENGTH: 79

408 <212> TYPE: PRT

409 <213> ORGANISM: Bacillus subtilis

411 <220> FEATURE:

412 <223> OTHER INFORMATION: SRF2_2 Surfactin Synthetase 2 Pos: 1899 to 1977

414 <400> SEQUENCE: 10

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424 Ser Glu Gly Gly Leu Gln Glu Leu Cys Ala Tyr Tyr Thr Ser Asp Gln

425 35 40 45

428 Asp Ile Glu Lys Ala Glu Leu Arg Tyr Gln Leu Ser Leu Thr Leu Pro

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433 65 70 75

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437 <211> LENGTH: 79

438 <212> TYPE: PRT

VERIFICATION SUMMARY

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